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present invention, as the elastic members 130 provide the flexible display 120 the extending flexibility when being unfolded or folded, no stretching and deformation, even tearing occurs when the flexible display 120 is bent.

FIG. 3 is a schematic structural view of a foldable electronic device according to another embodiment of the present invention. As the structure of this embodiment is substantially the same as that of the embodiment in FIG. 1, only differences therebetween are described herein. A foldable electronic device 100 comprises a foldable casing 110, a flexible display 120, and six elastic members 130. The foldable casing 110 comprises a first casing body 112, a second casing body 114, and two first pivots 113. The flexible display 120 has a first edge 121, a second edge 122 opposite to the first edge 121, a third edge 123, and a fourth edge 124 opposite to the third edge 123. The first edge 121 and the second edge 122 are connected to the three elastic members 130 respectively. The elastic member 130 connected to the first edge 121 is fixed to the first casing body 112, and the elastic member 130 connected to the second edge 122 is fixed to the second casing body 114. The elastic members 130 provide the flexible display 120 extending flexibility when being unfolded or folded.

FIG. 4 is a schematic structural view of a foldable electronic device according to another embodiment of the present invention. As the structure of this embodiment is substantially the same as that of the embodiment in FIG. 1, only differences therebetween are described herein. A foldable electronic device 100 comprises a foldable casing 110, a flexible display 120, and three elastic members 130. The foldable casing 110 comprises a first casing body 112, a second casing body 114, a third casing body 116, two first pivots 113, and two second pivots 115. The first pivot 113 connects the first casing body 112 and the second casing body 114, such that the first casing body 112 and the second casing body 114 are capable of being unfolded or folded with respect to each other. The second pivot 115 connects the second casing body 114 and the third casing body 116, such that the second casing body 114 and the third casing body 116 are capable of being unfolded or folded with respect to each other. Moreover, when the first casing body 112, the second casing body 114, and the third casing body 116 are unfolded with respect to each other, a bearing range 118 is formed. Furthermore, the flexible display 120 is disposed on the bearing range 118. A first edge 121 of the flexible display 120 is connected to the first casing body 112, and a second edge 122 is connected to the three elastic members 130. One end of the three elastic members 130 is connected to the second edge 122 of the flexible display 120, and the other end is fixed to the third casing body 116. The elastic members 130 provide the flexible display 120 extending flexibility when being unfolded or folded.

FIG. 5A is a plane cross-sectional view of the foldable electronic device in FIG. 4, FIG. 5B is a schematic view of a first casing body in FIG. 5A folded to second casing body, and FIG. 5C is a schematic view of a third casing body in FIG. 5B folded to the first casing body. In the present invention, the embodiment in FIG. 4 is a two-folded foldable electronic device, which is folded in the following manner. The first casing body 112 rotates for 180 degrees counter-clockwise with respect to the second casing body 114, such that the first casing body 112 is laminated on the second casing body 114, as shown in FIG. 5B, and at this time, the flexible display 120 is bent and slides along the first pivot 113. Next, the third casing body 116 rotates for 180 degrees clockwise with respect to the second casing body 114, and is laminated on the first casing body 112, as shown in FIG. 5C, and at this time, the flexible display 120 is bent and slide along the second

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pivot 115. The elastic members 130 provide the flexible display 120 extending flexibility during the two times of bending.

FIG. 6 is a schematic structural view of a foldable electronic device according to another embodiment of the present invention. As the structure of this embodiment is substantially the same as that of the embodiments in FIGS. 1 and 4, only differences therebetween are described herein. A foldable electronic device 100 comprises a foldable casing 110, a flexible display 120, and six elastic members 130. The foldable casing 110 comprises a first casing body 112, a second casing body 114, a third casing body 116, two first pivots 113, and two second pivots 115. The first pivot 113 connects the first casing body 112 and the second casing body 114, such that the first casing body 112 and the second casing body 114 are capable of being unfolded or folded with respect to each other. The second pivot 115 connects the second casing body 114 and the third casing body 116, such that the second casing body 114 and the third casing body 116 are capable of being unfolded or folded with respect to each other. Moreover, when the first casing body 112, the second casing body 114, and the third casing body 116 are unfolded with respect to each other, a bearing range 118 is formed. Furthermore, the flexible display 120 is disposed on the bearing range 118. A first edge 121 and a second edge 122 of the flexible display 120 are connected to the three elastic members 130 respectively. Furthermore, the elastic member 130 connected to the first edge 121 is fixed to the first casing body 112, and the elastic member 130 connected to the second edge 122 is fixed to the third casing body 116. The elastic members 130 provide the flexible display 120 extending flexibility when being unfolded or folded.

According to the foldable electronic device of the present invention, the flexible display is capable of being unfolded or folded together with the foldable casing. However, when being in a folded state, the foldable casing applies a stretching stress on the flexible display, thus forcing the flexible display to extend. A common flexible display does not have the extending flexibility, and thus, in the foldable electronic device according to the present invention, an elastic member is disposed to connect the flexible display and the foldable casing, so as to provide the flexible display the extending flexibility when being unfolded or folded. That is to say, the flexible display is enabled to have extensibility through the coordination of the elastic member, thus avoiding the risk of being pulled by the stress of the foldable casing and being torn and damaged. Therefore, the present invention solves the problems and applies the flexible display in the foldable electronic device to achieve the efficacy of having a minimal volume when being folded and having a maximal display screen when being unfolded.

What is claimed is:

1. A foldable electronic device, comprising:
 - a foldable casing, capable of being unfolded or folded;
 - a flexible display, disposed on the foldable casing, wherein the flexible display and the foldable casing are capable of being unfolded or folded together; and
 - at least one elastic member, for connecting the foldable casing and the flexible display, so as to provide the flexible display extending flexibility when being unfolded or folded;
- wherein the foldable casing has at least two casing bodies, the two casing bodies are pivoted to each other, and are capable of being unfolded and folded with respect to each other, and when the two casing bodies are unfolded with respect to each other, a bearing range is formed, and the flexible display is disposed on the bearing range.